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ABSTRACT

One of a series dealing with current issues affecting language arts instruction, this paper focuses on thinking skills. The paper begins by raising two issues: whether thinking skills should be taught as part of each subject area, as a separate skill, or both, and whether English and language arts teachers have a special role in the teaching of thinking skills. Next, the paper summarizes some professional viewpoints regarding thinking skills, noting that each argues persuasively for a particular approach and makes claims for the feasibility of classroom applications. The paper concludes with eight questions, gleaned from the ideas of theorists and researchers, that might be applied to almost any classroom material or activity and the answers to which serve as guidelines for teaching thinking skills: (1) What thinking skills underlie this material/activity? (2) Is the material/activity more than a "brain teaser"? (3) Is the content of this material/activity within the range of the students? (4) Is sufficient preparation given for performing the essential intellectual tasks embedded in this material/activity? (5) Does the material/activity allow for verbal elaboration about points in question? (6) If writing is required in this material/activity, is provision made for prewriting discussion? (7) Does the material/activity help make the students aware of the fact that they are exercising particular thinking skills? and (8) Is the teacher's role in the material/activity consistent with the development of students' thinking skills. (HOD)

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STARTER SHEET

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SLATE Support for the Learning and Teaching of English

THINKING SKILLS

The Issues

Widespread concern has been voiced in recent years by educators, journalists, and the public at large concerning students' poor thinking skills. The National Assessment of Educational Progress report *Reading, Thinking, and Writing* revealed that student writing samples were weak in areas specifically related to logical processes—organization of ideas, continuity, cohesion, and the like. In *A Nation at Risk*, the National Commission on Excellence in Education noted that students have a poor command of intellectual skills such as drawing inferences and solving problems. The College Board's Project EQuality booklet on *Academic Preparation for College* called for the teaching of reasoning as a basic academic competency, along with reading, writing, speaking, listening, and mathematics. Employees frequently report that young people lack the ability to think through problems, pose hypotheses, and offer alternative solutions.

Although there is increasing acknowledgement of the need to help students develop intellectual skills, little consensus exists about how thinking skills should be taught, and who should teach them. The issues can be stated in two questions: Should thinking skills be taught as part of each subject area, as a separate skill, or both? Do English and language arts teachers have a special role in the teaching of thinking skills?

Professional Viewpoints: NCTE/Research

The NCTE statement "Essentials of English: A Document for Reflection and Dialogue" includes a section on thinking skills. Noting the close relationships between thinking and language, the "Essentials" document states that "thinking skills, involved in the study of all disciplines, are inherent in reading, writing, speaking, listening and observing. . . . The ability to analyze, classify, compare, formulate hypotheses, make inferences, and draw conclusions is essential to the reasoning process of all adults." English teachers responding to a 1981 NCTE poll agreed. They named thinking skills as the area in which quality classroom materials are most needed.

In an informal survey of English and language arts supervisors, curriculum specialists supported teaching of thinking in connection with the appropriate subject areas rather than in separate courses. They acknowledged, however, that instruction in thinking skills underlying each discipline is neglected in the curriculum.

Numerous researchers and teachers are taking the position that thinking skills can and should be the focus of special exercises, texts, and programs. In *Cognitive Process Instruction*, Jack Lochhead says, "It is becoming possible to isolate specific cognitive skills and to design instructional materials appropriate for each skill." Edward de Bono, author of an internationally distributed thinking skills program, claims that "generalizable thinking skills" can and should be taught, in addition to "local skills" required in particular subject matter areas. Howard Citron of Innovative Sciences believes that we must "systematically develop student's thinking and reasoning abilities in 'purer' sense and directly build . . transfer of these abilities to academic learning and real life behavior." Another approach is provided in Matthew Lipman's Philosophy for Children Program, in which thinking is taught in connection with concepts from the subject matter of philosophy.

Some commercial publishers have responded to the call for attention to thinking skills. For example, Midwest Publications specializes in thinking skills, verbal and nonverbal, in a series of booklets (*Analogy, Cause and Effect, Special Perception, Conservation, Inferences, Following Directions, Critical Thinking*, etc.) by Anita Harandek. Innovative Sciences has produced Samson's *Thinking Skills*, Glade's *Think Series*, and Whimbey's *Analytical Reading and Reasoning*. Such texts are usually unspecified in terms of subject-matter areas, in line with the claim that thinking skills can be taught in isolation.

But what of thinking skills in English and language arts? A review of commercially published language arts materials by Chares Suhor reveals that materials strongly rooted in theory and research (e.g., Moffett's *Interaction* series, Anderson's *New Directions in English*, Purves's *Responding*) were unsuccessful in the market.

Nevertheless, a growing number of English and language arts teachers and curriculum specialists are developing materials and methods at the school district level for integrating the teaching of thinking and English. NCTE is currently developing secondary-level classroom materials for instruction in thinking skills. Perhaps the strongest existing programs are based on process approaches to the teaching of writing. Such approaches

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frequently include pre-writing activities (e.g., brainstorming and large and small group discussion) focused on the particular thinking processes embedded in the writing assignment. For example, pre-writing activities leading to a cause/effect essay might include language games and discussion which involve predictions of consequences.

Some research-based programs have been developed at the college level. Mark Schlesinger describes several approaches to teaching thinking in college, including global skills, problem solving/decision-making strategies, generic skills, and stage developmental approaches. Schlesinger explains dominant theoretical and research bases for the programs and refers to specific programs (most of them not taught within a subject area) at numerous sites.

In summary, a great deal of activity is evident in the area of thinking skills, although the impact of recent development has been slight in the classroom. Most materials are intended to transcend subject area boundaries, although language skills are inherent in virtually every program. Widely divergent opinions, approaches, and theoretical bases exist for the emerging programs. Different researchers and writers of materials claim allegiance to Piaget, Bloom, Guilford, Feuernstein, Erikson, Perry, and other sources. Each argues persuasively for a particular approach and makes claims for the feasibility of classroom applications.

Strategies for Action

Given the richness—and the confusion—of the current state of the art of teaching thinking skills in relation to English, are there some guidelines that might be followed in considering methods and materials for classroom use? The questions below, gleaned from the ideas of theorists and researchers cited earlier, might be applied to almost any classroom material or activity. The main prior assumptions are that thinking skills are embedded in the discipline of English, and that it is reasonable to focus on such skills in everyday instruction.

Guidelines for Teaching Thinking Skills

1. What thinking skills underlie this material/activity?

   Some materials and activities require fairly simple mental operations, like remembering facts or understanding linear sequences and events; others call for comparing/contrasting, analogizing, categorizing/specifying, hypothesizing, tracing cause and effect, and other more complex skills.

2. Is the material/activity more than a "brain teaser"—i.e., are the tasks relevant to the content and skills of English, and to the real world?

   Word searches, cryptograms, and logic problems with grids might be peripherally related to general thinking ability or knowledge of word structure. However, without specific linkage to the teaching of English (e.g., written discourse, inflections in English, orthography), such materials are predominantly gimmicks or preparation for use of puzzle books in one's leisure time.

3. Is the *content* of this material/activity within the range of my students?

   Most students can categorize when the task calls upon commonly shared knowledge and experiences—kinds of animals, sports, movies, etc.; but categorization of dense abstractions like kinds of verbals (gerunds, participles, infinitives) demands skills in formal operational thinking. Most students can verbalize simple comparisons, but expressing comparisons in terms of a continuum or a graph might pose special problems.

4. Is sufficient preparation given for performing the essential intellectual tasks embedded in this material/activity?

   Students can be primed for complex assignments that involve creating definitions, writing descriptions, hypothesis-making, supporting one's argument, etc., through warmups in the form of language games or thinking exercises.

5. Does the material/activity allow for verbal elaboration about points in question?

   Students' thinking skills are not well served by "exercises" with set answers and no provision for alternative solutions and analysis of responses. The most useful aspect of analogy exercises, for example, might be the possibility for intelligent debate about plausible responses.

6. If writing is required in this material/activity, is provision made for pre-writing discussion?

   Writing, like talking, is a way of shaping one's thought. Students who exchange ideas before writing are gaining vital practice in the shaping of unformed impressions into articulate expression.

7. Does the material/activity help make the students aware of the fact that they are exercising particular thinking skills?

   Students should not classify and label the large array of thinking skills involved in assignments. But their self-confidence and their ability to transfer thinking strategies beyond the particular assignment can be enhanced if they are aware that they are indeed finding points of contrast, analyzing component parts, posing alternative solutions, etc.

8. Is the teacher's role in the material/activity consistent with the development of students' thinking skills?

   Minimally, the teacher must be a perceptive monitor of students as they think, speak, and write. The familar seatwork/homework assignment followed by teacher feedback or by recitation-based "correction" in class is a poor model for development of thinking skills beyond recall. Maximally, the teacher should be a discussion leader, intervening at appropriate points to stimulate further thought or suggest strategies for making richer connections among the ideas under discussion.

Charles Suhor
(For the Slate Steering Committee)

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